

Wallenpaupack Area School District  
Wallenpaupack Middle School  
Course Title: 8<sup>th</sup> Grade Transitional Math  
Length of Course: Year Long

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District Policies:

*Academic Integrity:*

Academic integrity is essential to the success of an educational community. Students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism, multiple submissions and other forms of dishonest or unethical behavior, is prohibited.

*Assessment:*

The goal of grading is to report student progress and achievement to the parents to strengthen the home-school connection. The grade should accurately reflect the student's performance in mastering the PA Standards and the WASD curriculum.

*Attendance:*

Regular school attendance is vitally important to academic success. Not only does attendance reinforce and enrich the learning process; it also establishes patterns and attitudes that will carry forward into adult work habits. Regular, consistent attendance is a prerequisite to successful school life. Children should be absent only in cases of illness or emergency.

*Special Education:*

Our commitment to each student is to ensure a free appropriate public education which begins with the general education setting, with the use of Supplementary Aids and Services. Inclusive education describes the successful education of all students with the appropriate supports and services to participate in and benefit from the general classroom settings and other educational environments.

Course Description:

8<sup>th</sup> Grade Transitional Math includes the study and application of the following topics:

- Explore algebraic expressions and integers
- Solve one-step equations and inequalities, decimals and equations
- Understand factors, fractions, exponents, operations with fractions
- Use ratios, proportions, and percents
- Solve linear functions and graphing
- Explore spatial thinking
- Utilize area and volume
- Understand right triangles in Algebra
- Use data analysis and probability
- Be introduced to nonlinear functions and polynomials

Pennsylvania State Standards:

All WAMS courses are aligned to the PA State Standards and Common Core Standards, where applicable.

Course Objectives:

Students will demonstrate the ability to:

- Use variables and variable expressions, perform operations with integers, graph points in the coordinate plane, solve problems by looking for a pattern, use the Distributive Property, to write and solve equations, to write, solve and graph inequalities, and to solve a problem by Try, Test, Revise.
- Estimate with decimals, to solve equations with decimals, to solve equations with decimals, to convert metric units of measure, and to solve a problem by simplifying the problem.
- Simplify expressions with exponents, to simplify fractions, to write and calculate in scientific notation, and to solve problems by accounting for all possibilities.
- Perform operations with fractions, to solve equations with fractions, to find powers of products and quotients, and to solve problems by working backwards.
- Find and use ratios and unit rates, and to write and solve proportions, and to find and use percents, and to solve a problem by making a table.
- Write and solve multi-step equations, to write and solve two-step inequalities, to find simple interest and compound interest, to solve problems by writing equations, determine whether a relation is a function, solve linear equations, solve systems of linear equations and inequalities, and solve a problem by graphing.
- Use properties of figures to solve problems, classify geometric figures, construct figures, solve a problem by drawing a diagram, find the areas of figures, find the surface areas of space figures, find the volumes of space figures, and solve a problem by making a model.
- Find the square root of numbers, find the missing measures of right triangles, use the Distance and Midpoint Formulas, and solve a problem by writing a proportion.
- Use graphs to represent data, find theoretical probability and experimental probability, find permutations and combinations, and solve problems by doing simulations.
- Use arithmetic and geometric sequences, graph nonlinear functions, perform operations with polynomials, and solve a problem using multiple strategies

Student Responsibilities:

*Attendance expectations:* Attendance is essential to reaching your full potential in understanding algebraic concepts.

*Homework expectations:*

Assigned homework is expected to be completed to reinforce skills and concepts taught. Be prepared at all times (book, notebook, and pencil). Your integrity should be very important to you. Copying homework or assignments is cheating, and when caught you will be given a 0%. Working together is different than copying. Any quiz, test, or project you are caught cheating on will result in an automatic 0% with no opportunity for a retake.

*Make-Up Work:* If absence is the reason, you have the number of days you were absent to make up the homework. It is the student's responsibility to ask for the missed assignments and to show the teacher the assignment upon completion.

*Late Work:* Teacher's discretion.

Assessment:

**Grading Components:** The following system will be used to determine your grade each semester:

|     |              |
|-----|--------------|
| 45% | Tests        |
| 35% | Quizzes/Labs |
| 20% | Homework     |

The following system is the grade set-up for the year:

|           |           |           |           |            |             |
|-----------|-----------|-----------|-----------|------------|-------------|
| Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 | Final Exam | Final Grade |
| 22.25%    | 22.25%    | 22.25%    | 22.25%    | 11%        | 100%        |

Content Pacing Guide:

The following pacing guide is a general guideline and the instructional content/timeframe may vary.

| Topic                                                                                                                | Major Assignments                                                                                                                                                                                                                                                                                                                      | Estimated Time                       |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Unit 1: Review Chapters 1-6                                                                                          | Diagnostic Test/Instruction: Algebraic expressions and integers, solving one-step equations and inequalities, decimals and fractions, factors, fractions, and exponents, operations with fractions, and ratios, proportions and percents.                                                                                              | ¼ quarter                            |
| Unit 2: Chapter 7 – Solving Equations and Inequalities                                                               | Quiz: Two-Step and Multi-Step Equations<br>Quiz: Multi-Step Equations with Fractions and Decimals<br>Quiz: Writing and Solving Equations with Variables on Both Sides<br>Quiz: Solving Two-Step Inequalities<br>Quiz: Transforming Formulas and Simple and Compound Interest<br>Test: Chapter 7<br>Cumulative Assessment: Chapters 1-7 | ¼ quarter                            |
| Unit 3: Chapter 8 – Linear Functions                                                                                 | Quiz: Relations and Functions and Equations with Two Variables<br>Quiz: Slope and Y-Intercept<br>Quiz: Writing Rules for Linear Functions and Scatter Plots<br>Quiz: Solve by Graphing<br>Quiz: Solving Systems of Linear Equations<br>Quiz: Graphing Linear Inequalities<br>Test: Chapter 8                                           | ¼ quarter                            |
| Unit 4: Chapter 9 – Spatial Thinking                                                                                 | Quiz: Geometry: Pairs, Lines and Planes, Angle Relationships, Parallel Lines<br>Quiz: Classifying Polygons and Drawing a Diagram<br>Quiz: Congruence, Circles, Data Analysis<br>Quiz: Translations<br>Quiz: Symmetry, Reflections, and Rotations<br>Test: Chapter 9<br>Midterm: Chapters 1-9                                           | ¼ quarter                            |
| Unit 5: Chapter 11 – Right Triangle in Algebra                                                                       | Quiz: Square Roots and Irrational Numbers<br>Quiz: The Pythagorean Theorem<br>Quiz: Distance and Midpoint Formulas<br>Quiz: Writing a Proportion and Special Right Triangles<br>Test: Chapter 11<br>Cumulative Assessment: Chapters 1-11                                                                                               | ¼ quarter                            |
| Unit 6: Chapter 12 – Data Analysis and Probability                                                                   | Quiz: Frequency Tables, Line Plots, and Box-and-Whisker Plots<br>Quiz: Using Graphs to Persuade, Counting Outcomes, and Theoretical Probability<br>Quiz: Independent/Dependent Events, Permutations, Combinations<br>Quiz: Experimental Probability, Random Samples and Surveys, Simulating a Problem<br>Test: Chapter 12              | ¼ quarter                            |
| Unit 7: Chapter 10 – Area and Volume                                                                                 | Quiz: Area: Parallelograms, Triangles, Trapezoids, and Circles<br>Quiz: Space Figures<br>Quiz: Surface Area: Prisms and Cylinders<br>Quiz: Surface Area: Pyramids, Cones, and Spheres<br>Quiz: Volume: Prisms and Cylinders<br>Quiz: Volume: Pyramids, Cones, and Spheres<br>Test: Chapter 10                                          | ¼ quarter                            |
| Unit 8: Chapter 13 – Nonlinear Functions and Polynomials<br><br>(Completion of this chapter is dependent upon time.) | Quiz: Patterns and Sequences, Graphing Nonlinear Functions<br>Quiz: Exponential Growth and Decay<br>Quiz: Polynomials<br>Quiz: Adding and Subtracting Polynomials<br>Quiz: Multiplying a Polynomial by a Monomial<br>Quiz: Multiplying Binomials and Using Multiple Strategies<br>Test: Chapter 13                                     | ¼ quarter                            |
| Cumulative Content                                                                                                   | 1 Final Exam                                                                                                                                                                                                                                                                                                                           | Date assigned by the school district |

Commented [WB1]: